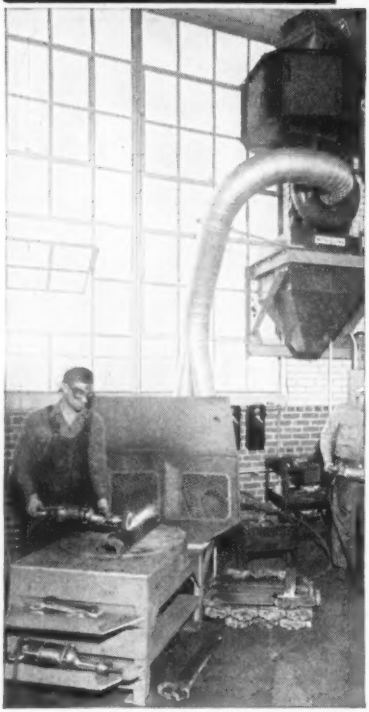
EMPLOYEE WELFARE IN ALL ITS PHASES

Occupational HAZARDS

TO OUR FRIENDS:

This month our features run toward seasonal interests — **The Common Cold—Smoke Control—Congress "Shots"**—and so on. But nothing interests us more than wishing you BEST SEASON'S GREETINGS!

DUST CONTROL that's *RIGHT* on the job



. . . engineered by KIRK AND BLUM

● When dust is not adequately controlled, every element of production is affected—the health and working capacity of employees, the quality and quantity of your output, the length of life of machinery and other equipment.

Kirk & Blum Dust Control is RIGHT on the Job—*engineered* to meet your individual plant needs. Backed by 39 years of specialized experience, every K & B installation—wheher a completely new sysem or a remodeling of existing facilities—is guaranteed to give you maximum dust control at minimum operating cost.

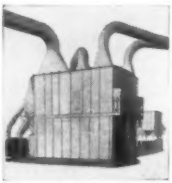
It will pay you to thoroughly investigate the services rendered by Kirk & Blum Air Engineers. For details, write us at the address below.

SEND FOR BOOKLETS

Dust Collecting Systems in Metal Industries
Fan Systems for Various Industries
Blower Systems for Woodworking Plants
Industrial Ovens
Cooling Systems for the Glass Industry
Data on Kirk & Blum Production Facilities

THE KIRK & BLUM MANUFACTURING CO.

2802 SPRING GROVE AVE. CINCINNATI 25, OHIO

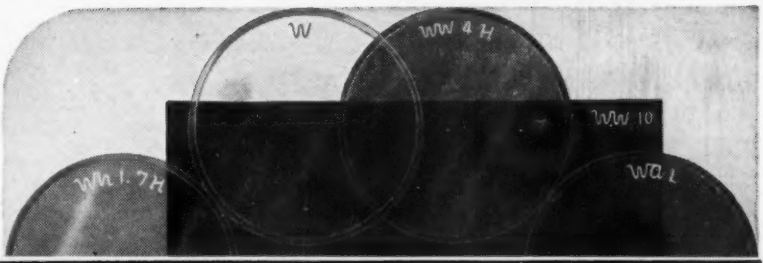


Wet process air cleaning using "Rotoclone."

Combination of centrifugal separator and dry filter.

Centrifugal separator suitable for heavy dust concentration.

Clean dry returnable air required. Cloth filter selected.



WILLSON SAFETY GLASS
Gives Assurance Of Reliable Eye Protection

You can't determine the quality of safety glass by merely looking at it—for most glass looks about the same except for shade. The way to be sure of proper eye protection for your workers is to select clearly marked glass of a dependable manufacturer. Look for these identifying Willson trademarks. They represent 75 years of safety experience and are your assurance that every Willson lens meets most rigid Federal specifications for optical quality.

CLEAR SUPER-TOUGH* GLASS For operations where flying particles (but not glare) endanger the eyes. Each Super-Tough* lens must pass the Federal drop-ball test for impact resistance, the Polariscope test for uniformity of heat treatment.
W

WILLSON-WELD* GLASS For all types of welding, wherever high temperatures and excessive glare are encountered. Green glass in eight shades, accurately graded for density and thickness, filters out harmful ultra-violet and infra-red rays.
WW

WILLSON-WELD SUPER-TOUGH GLASS For double protection, against both glare and flying particles, on all types of welding operations.
WW H

WILLSONITE* SUPER-TOUGH GLASS Particularly useful in the vicinity of welding operations. Furnishes both glare protection and impact resistance. Willsonite green permits objects to be seen in their natural colors—an extra safety feature.
WH H

WILLSON ALUBRO-WELD* GLASS A special blue welding glass to protect eyes during aluminum or bronze welding where a sodium yellow glare is encountered. Available in three shades—light, medium and dark.
WA

WILLSON TRADE MARK

For help with your eye-protection problems, get in touch with your Willson distributor or write to Willson Products, Inc.

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GOGGLES · RESPIRATORS · GAS MASKS · HELMETS

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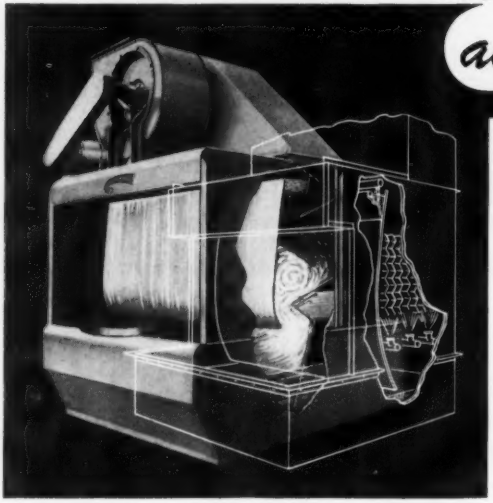

The advantages of the unique "Hydro-Whirl" washing and scrubbing action has relegated the conventional spray-type chamber to lightly-loaded applications only

This new and proven principle insures complete particle wetting by pulling the laden air through a heavy, rotating sheet of water. Combining this action with the adequate scrubbing secured as the air is further pulled through a winding path, affords the most efficient method of collecting paint overspray.

HYDRO-WHIRL

PETERS-DALTON OFFERS PROMPT ADVICE IN THE APPLICATION OF ITS EQUIPMENT AND OFFERS FURTHER INFORMATION IN ITS FREE CATALOG.

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PETERS-DALTON *Incorporated*

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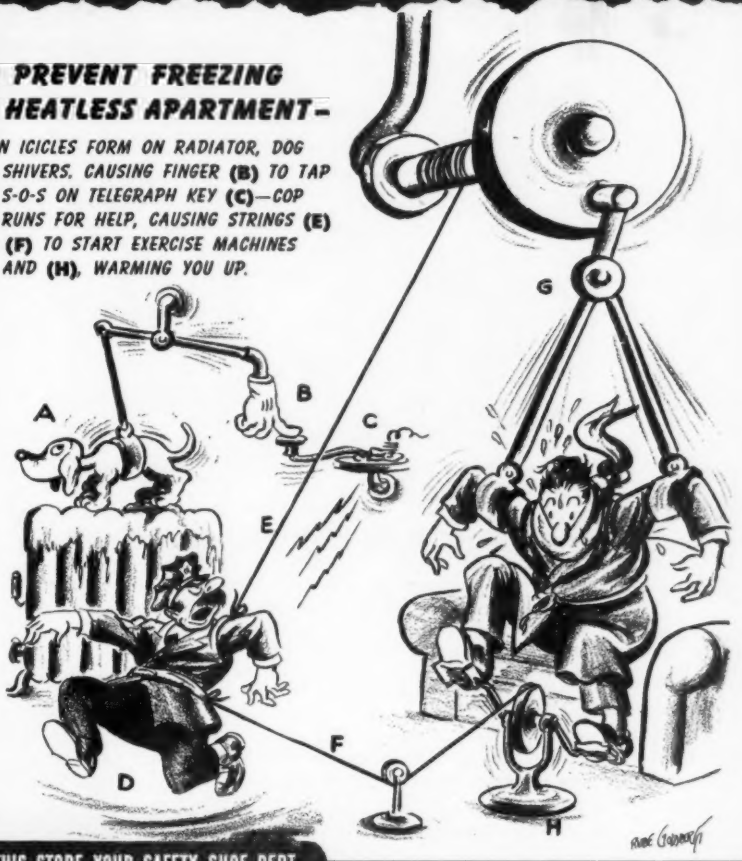
HYDRO-WHIRL DUST COLLECTORS AND SPRAY BOOTHS—INDUSTRIAL OVENS WASHERS AND VENTILATING SYSTEMS

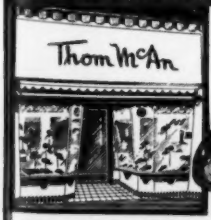
One Way To Do It! — by Rube Goldberg

TO PREVENT FREEZING IN HEATLESS APARTMENT—

WHEN ICICLES FORM ON RADIATOR, DOG **(A)** *SHIVERS, CAUSING FINGER* **(B)** *TO TAP OUT S-O-S ON TELEGRAPH KEY* **(C)**—*COP* **(D)** *RUNS FOR HELP, CAUSING STRINGS* **(E)** *AND* **(F)** *TO START EXERCISE MACHINES* **(G)** *AND* **(H)**, *WARMING YOU UP.*



MAKE THIS STORE YOUR SAFETY SHOE DEPT.



More than 500 stores in over 300 cities.

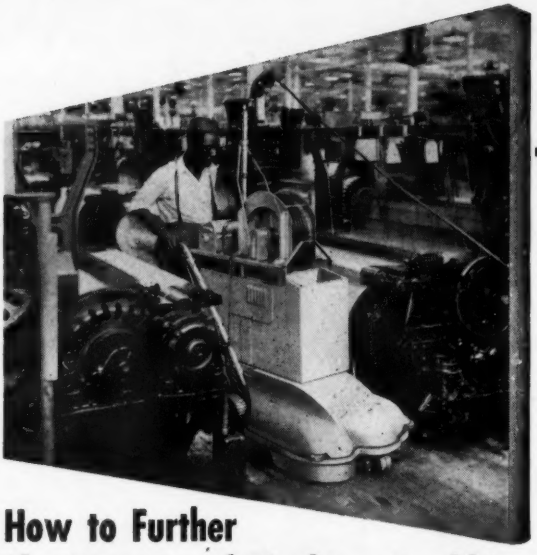
SAFETY SHOE DIVISION
25 W. 43 ST., NEW YORK 18, N. Y.

ONE WAY to approach the foot safety problem in your plant is to provide Safety Shoes of some brand that your men don't know—or perhaps don't like.

THE EASY WAY is to select Thom McAns, "the Safety Shoes that workers wear WILLINGLY"—because they already know and trust the Thom McAn name.*

THE EASIEST WAY OF ALL—"LET Thom DO IT" Let us stock our Safety Shoes for you in our own Thom McAn retail stores, fit them with our own trained fitters, without cost or obligation on your part. You, freed of "shoe store problems," can concentrate on more important things, make yourself a more valuable man. Proof? Details? Write for them—today.

MORE MEN buy their shoes from **Thom McAn** than from **ANY OTHER** shoe store organization **IN AMERICA**



How to Further The Economy of Machine-Scrubbing

Three-way savings are possible simply by choosing a cleanser that keeps pace with the speed of machine-scrubbing . . . *one that is specially compounded for the purpose.* Such a cleanser cuts the operating time of the machine to the minimum required, effecting savings in labor costs . . . prolongs the life of the machine . . . and saves on brushes. In contrast, slow-acting cleansers necessitate prolonged brush action, which not only needlessly piles up mileage on the machine but prematurely wears out the brushes.

All *Finnell* Cleaning Compounds are designed to work in scrubbing machines, and all are products of *Finnell's own powder mill.* There are six such cleansers, including *Setol,* the mineral oil solvent for use on mill and factory floors. For consultation or literature on the full line, phone or write nearest *Finnell* branch or Finnell System, Inc., 3512 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

Occupational HAZARDS

DEVOTED TO EMPLOYEE WELFARE IN ALL ITS PHASES

Vol. 9 December 1946 No. 2

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IN CHUCK-A-LUCK— the odds are 215 to 1 against three of a kind; 13.4 to 1 against two of a kind. Paying even money on the singles, two-for-one on the doubles, and three-for-one on triples, Chuck-A-Luck always give a 7 47/54 percentage in favor of the "house".

HY-TEST DIV: INTERN
TIONAL SHOE COMPA
ST. LOUIS 3, MO. • EASTE

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HY-TEST

THE SAFETY SHOE WITH THE ANCHOR FLANGE STEEL BOX TOE

This flange adds extra strength to the steel arch's sidewall. Anchored between insole and outsole, it also serves to resist shifting and tilting when toe is struck at an angle.

The latest style shoe is completely old-fashioned when worn on hazardous jobs. Today more workers are wise to the ways of safety . . . and more workers are wearing Hy-Test Safety Shoes. They know Hy-Test's Anchor-Flange Steel Box Toe stands up under greater pressure and harder impacts . . . "stays put" to resist shifting and tilting when struck glancing blows. Yet this Steel Box Toe is so light and so compactly built-in that it loses itself in the shoe's neat lines. This, along with the Hy-Test tradition for fine workmanship and quality leathers, guarantees every wearer a shoe that fits comfortably and lasts longer. Drop us a card today for complete details about a simple plan that provides your workers with the protection of Hy-Test Safety Shoes.

THE WORLD'S LARGEST SELLING SAFETY SHOE

HY-TEST *Safety Shoes*

ANYBODY FALL IN YOUR PLANT LATELY?

NEO-CORD SOLES *by Gro-Cord*

Resists Oil..Give Sure Footing!

Even when oily floors cannot be avoided, you can maintain your safety program by specifying Neo-Cord soles and heels. They resist wear despite oils and acids, too. The extra economy of long wear plus safety pays big dividends for all.

GRO-CORD RUBBER CO., Lima, Ohio

GRO CORD

BOTTOMS THAT ARE TOPS IN SAFETY

Merry Christmas

★ ★ ★

from the

Manufacturers of Famous

SCHMIEG Centri-Merge

DUST and FUME

CONTROL EQUIPMENT

START THE NEW YEAR

"Right" by investigating the best type of installation to provide dust and fume free working conditions in your plant. Let our engineering staff make recommendations. No obligation, of course.

Write for Full Details

Schmieg Industries, INC.

ENGINEERS AND MANUFACTURERS

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READY FOR USE
in a HURRY!

M·S·A All-Weather
FIRST AID KITS

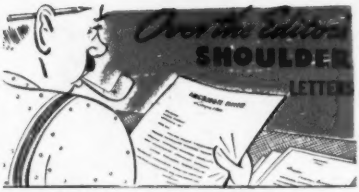
Every dressing and treatment in these sturdy, dustproof and moisture-proof steel Kits is unit-packaged for fast application. Each item is complete in itself, with clear instructions and diagram of use—just open, and apply to injury. No fuss, no waste; Kits are available in 10, 16, 24 and 36-unit sizes.

For Instance, THE VISUAL SWAB

Just crush with fingers, and use tip like brush on injury! Antiseptic liquid is hermetically-sealed in glass ampoule contained in clear plastic tube. When crushed, liquid saturates gauze tip for easy application.

WRITE for Bulletin FA-93—gives complete details on Kits and assorted fills.

MINE SAFETY APPLIANCES CO.
Braddock, Thomas and Meade Streets
Pittsburgh 8, Pa.

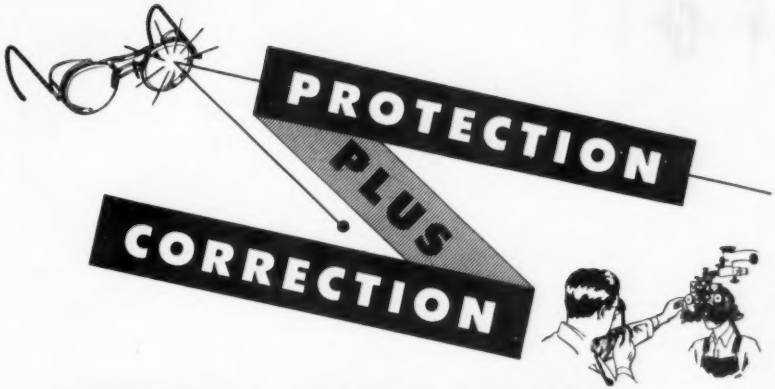


"Glyptal"

OCCUPATIONAL HAZARDS:

I am seeking data on "Glyptal." . . . A patient reports he has "Glyptal poisoning." . . . I cannot locate any reference to the preparation in the Quarterly Cumulative Index Medicus.—William M. Dillon, College of Physicians and Surgeons, Boston, Massachusetts.

The chemical is a product of the alkyd-resin type, made from a combination of substances such as glycerol and phthalic acid. It is used chiefly, as far as we can determine, as an electric motor paint, and to the best of our knowledge, is a General Electric product, exclusively. Being a synthetic resin substance, it affords all the hazards of the aromatic hydrocarbons. Solvent thinners used with the substance are generally 73% aromatics and 27% paraffin. A maximum allowable concentration of 50 to 200 p.p.m has been designated, and exhaust systems are prescribed for shop operations. As you know, "cable rash" is the popular name of a skin disease frequently found in workers using synthetic resins and waxes in the electric industry, and we suggest, where possible, that gloves or protective ointments be made mandatory, to prevent skin troubles. The inhalation danger is



SAFETY TWO WAYS

• Your safety eyewear program is designed to reduce accident frequency by *protecting* workers' eyes against flying particles, glare, fumes, and dust. But eyesight *correction* added to protection is an important safety measure, too. Sharp vision is safe vision. Your Bausch & Lomb safety eyewear distributor offers you a program of protection and correction—correction professionally prescribed to the visual requirements of every job. It gives workers the comfort and added earning power of top visual efficiency—and improves your safety record. Bausch & Lomb Optical Company, 745-12 St. Paul Street, Rochester 2, New York.

SAFETY FACT-FINDING CASE HISTORY

MEET ORTHO-RATER VISUAL PERFORMANCE STANDARDS	DO NOT MEET ORTHO-RATER VISUAL PERFORMANCE STANDARDS
3 ACCIDENTS AMONG 20 WORKERS	12 ACCIDENTS AMONG 20 WORKERS

The Ortho-Rater technique of the Bausch & Lomb Industrial Vision Service identifies accident-prone workers. In one department, 80% of accidents happened to people who fell below Ortho-Rater Visual Performance Standards. The B&L Industrial Vision Service is being used successfully to reduce accidents, by placing workers on hazardous jobs according to scientific visual fact-finding. It contributes also to increased production, improved quality, reduced labor turnover and lower training costs.

Write for descriptive bulletin.

BAUSCH & LOMB

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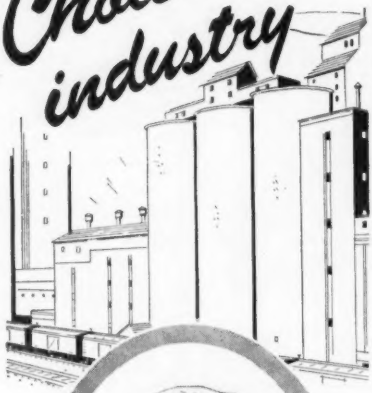
Choice of industry



DUPOR
RESPIRATOR No. 1

A miniature nose mask that's handy and easy to wear as a pair of glasses. Weighs only one ounce. Has 9 sq. in. filter. Can be worn while talking, eating, smoking. Sample sent postpaid $1.00 or write for complete catalog.

H. S. COVER
SOUTH BEND, INDIANA

similar to that of other anesthetics and does cause damage to the blood system, similar to that ascribed to the benzenes.—Ed.

Magna-Lite

OCCUPATIONAL HAZARDS:

You recently ran an article on Magnification Plus Illumination that had particular application in first-aid rooms because it was useful for removal of foreign bodies from eyes, nose or face. Can you assist me in obtaining more information on the instrument used in this connection since it would be of great help in our first-aid work.—Mattie Idol, Personnel Nurse, Melrose Hosiery Mills, High Point, North Carolina.

For your information, the product featured in this article on magnification plus illumination is called Magna-Lite and is available at the Haas Corporation, Menden, Michigan. They have descriptive literature on this product and will be glad to forward it to you.—Ed.

Ready-Made Promotion

OCCUPATIONAL HAZARDS:

We receive your periodical on occupational hazards regularly. In it we notice many fine articles that we would like to reproduce in our employee magazine.

May we have your permission to promote safety in our plant by using excerpts from your publication in our employee bulletin?—H. C. Bishop, assistant safety inspector, Ditzler Color Division, Pittsburgh Plate Glass, Detroit.

You may, with proper credit.—Ed.

Jackson's

Featherlight

TYPE J-1

For Metal Finishing, Pouring, Spot, Gun & Flash Welding, Woodworking, etc.

- ***Recent Improvements*** in this deservedly popular shield include these desirable features: (1) ***Headgear*** is made of extruded plastic . . . (2) ***Headgear Pivot Assembly*** is semi-permanent, tension is locked in—no washers or nuts to back off and get lost . . . (3) ***Spark Deflector***, plastic coated, and ***Sweat Band*** provide added protection and comfort for the forehead . . . (4) ***Fully Adjustable Visor***, of fire-repellent, flexible Plastacel is 11 inches wide for "all 'round" protection. It is bound with wire reinforced gimp which enables the operator to mold the shield to his own particular requirements. . . . (5) ***To withstand Greater Impact*** the Visor is attached to the ***outside*** of the Spark Deflector —see illustration at left.
- ***When ordering*** be sure to give the shade (clear, light, medium or dark green), depth and thickness of Visor desired.

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Visors are quickly and securely replaced by means of snaps. See illustration below.

Contact your nearest Jackson dealer or write to us.

JACKSON PRODUCTS

3265 Wight Street • Detroit 7, Michigan

In Canada: C. H. Heinze Co., Windsor; Hollup Corporation Limited, Toronto; Levitt Safety Appliances Co., Toronto; Paragon Supplies Limited, Vancouver; Placks Bros. Limited, Vancouver

STOP
PRODUCT DAMAGE...SPEED
YOUR PRODUCTION WITH
HOFFMAN
VACUUM EQUIPMENT

Overhead dust falling down causes damage; sweeping floors with push brooms stirs up dust that settles on semi-finished products. Cleaning by vacuum prevents this. Dust and dirt are rapidly "absorbed" and removed completely from the plant. Eliminating dust definitely improves plant working conditions. A clean plant is a safe and healthy plant.

• There are other important uses for Hoffman vacuum equipment in preventing damage to your products. Let us tell you about them.

TODAY...SEND FOR LITERATURE

U. S. HOFFMAN
MACHINERY CORPORATION
AIR APPLIANCE DIVISION
105 FOURTH AVENUE, NEW YORK 3, N. Y.

More Plaudits

OCCUPATIONAL HAZARDS:

"And Sudden Injury" in the October issue is a splendid feature. Makes excellent use as poster: quite effective. Keep them coming.—W. J. Keen, safety director, Griscom Russell Company, Massillon, Ohio.

OCCUPATIONAL HAZARDS:

I have just received and read the October issue of *Occupational Hazards* and I want to compliment you on the new set up. I have always felt that this magazine was a leader in the safety field.

On page 38, you refer to a report from the Ohio Supreme Court in the case of Stanfield vs. Industrial Commission of Ohio that is worth its weight in gold to any safety engineer. If you can enlarge on this kind of reporting *Occupational Hazards* will become a reference magazine of note.—Ralph S. Noblett, director of safety and personnel, General Chemical Company, Cleveland.

OCCUPATIONAL HAZARDS:

. . . We would like to congratulate you on your new, larger magazine. It is a step well taken towards the improvement of the publication. With your progressive editorial policy the future of *Occupational Hazards* is well assured.—Robert B. Heffernan, general manager, Speedex Industries, Inc., Detroit.

Have Sweep-Vision Lens

Provide Protection against Chemical and Dust Hazards

Single large acetate lens provides exceptional wide-angle vision. Frame molded from non-irritating, acid-resisting synthetic rubber—will stand up under long, hard wear. Scientifically designed to conform to face contours, providing an acid- and dust-tight fit. Cushioned and ventilated for comfort. May be worn over personal prescription glasses. Recommended for maintenance men on acid lines and storage batteries; for workers on metal plating baths, foundry shake-out, railroad car and coal handling apparatus cleaning, and in ship holds and engine cabs where dust is a dangerous factor. Send for bulletin.

American Optical
Safety Division

SOUTHBRIDGE, MASSACHUSETTS
BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

squeeze

play!

No shoe was ever made to take this kind of torture. A railroad brakeman tried to kick over the coupler on a locomotive as it approached a standing box car. His foot was in the middle when the couplings crashed together. It put quite a crimp even in this brawny Lehigh. But the brakeman's foot wasn't bruised. Sterling example of the Extra Margin of Safety engineered into every pair of Lehighs to compensate for failures and fools. Pick the shoe to lick the hazard—see our catalog.

LEHIGH SAFETY SHOE CO., INC. • ALLENTOWN, PA.

Posters and nylon gifts have proved to be good medicine in encouraging suggestions for hazard elimination. Here is Monsanto's idea of what the doctor ordered.

The scientific testing of this mask to be used by phenol operators is typical of the pains taken by chemical industry engineers to outwit the industry's hazards.

DOES IT

By JOHN J. HOFFMANN
Director of Safety, Monsanto Chemical Company, St. Louis, Mo.

Tell the bus driver or woodworker that chlorine or acid manufacturing is safer than his own craft, and he'd probably say, "You're crazy." But he'd be wrong. Tell him that the records of leading manufacturers show that the work of a man who makes toxic or corrosive chemicals can be as accident free as a desk job, and he'd be skeptical. He'd be wrong again.

THE man on the street today probably would still number the chemical industry among the most hazardous of all livelihoods. Little wonder that he thinks so, either. Skull and cross bones labels leer at him from antiseptics bottles in his medicine cabinet, warnings shout at him from containers of explosive cleaning fluids.

Monsanto Company's H-Acid department, having a force of three dozen men, who handle strong, potentially dangerous alkalis and acids, recently completed eighteen years without a single lost-time accident—a combined total of 1,000,000 safe working hours!

This story of H-Acid men at

Have TO BE DANGEROUS?

Acid Burns
Fires
Caustic Hazards
Toxic Solvent Fumes
Dermatitis

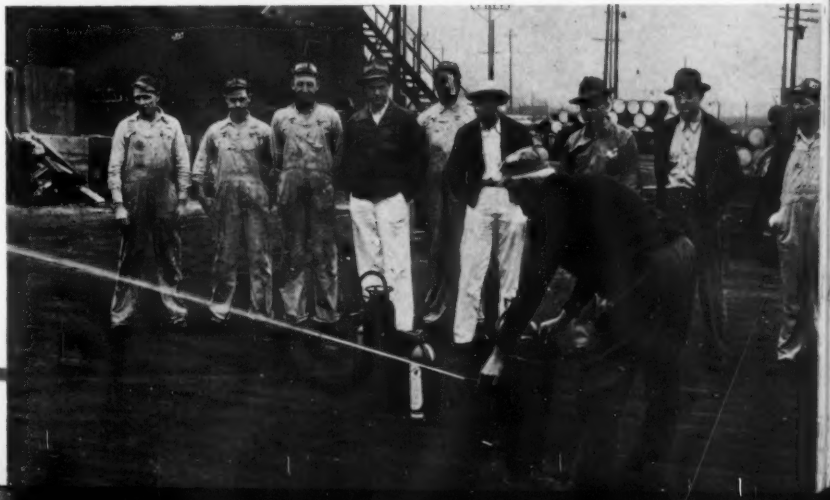
Everett, Massachusetts, is in no sense unique. In the company as a whole, for example, the average Monsanto worker can expect to work at his job for 108 years without injury at the present accident rate.

The stuff of which such performance is made is not the sole property of Monsanto. Many are the chemical companies who have watched the steady down dipping of accident curves. In their reports they see mirrored two decades of success in safety, for at dinner tonight 3,200 chairs at the head of as many tables will be filled instead of empty, as they would have been had the industry's fatality rate of 1923 continued to the present.

Fundamentally, the chemicals involved are no less hazardous than they were when, in 1908, an explosives plant reported a yearly average rate of 95 deaths for every 10,000 workers. Today *one* death among 10,000 employees gives the safety engineer a sweat bath.

Let's look behind the dry statis-

By sheer day-in-day-out plugging of fire prevention and control the chemical industry, once regarded as a no-man's-land of fire and brimstone, has set an enviable record for all industry to shoot at in safe handling of explosives and combustibles.



tics for the human story of how modern safety came to be. It is a warning chronicle in mankind's progress.

Open the book at about 1800 in a typical English cotton mill. Orphaned children operated the machines on a twelve-hour schedule, were beaten when they lagged, oiled clumsy unguarded mechanisms while in motion. Or inspect a coal mine during this same period where women were harnessed to coal cars. Cripplings were daily, deaths almost as frequent.

Common law in some measure recognized the inherent hazards of such work, but courts held that any employee who worked in a factory knowingly accepted and was responsible for the risks involved. Compensation for injury, required the injured to prove that his employer was grossly negligent.

Nor did this common law paradox seem unjust to the workers themselves. From the letters of Jane Allen, a mill worker in Massachusetts in 1940, we see that Jane thought the mill owners were "the kindest men imaginable," even after she lost a thumb and finger in a gear. Like industrial workers all over America, Jane blamed herself. The public looked upon these misfortunes as acts of God.

Such "acts of Providence" increased as machines sped faster and industry grew. Accidents soared as unskilled waves of immigrants tumbled into American factories fresh from famine and poverty ridden areas of Europe. Finally, tragic casualty rates drew alarmed attention of progressive leaders in every phase of American life.

Into this picture about 45 years ago, stepped the infant American chemical industry. It inherited the paradoxical psychology and abuses of common law, the unsafe factory customs.

In its immature years the industry was plagued with explosions, dust and fumes. Dr. Alice Hamilton, pioneer toxicologist, reports, "I remember a nitrating plant for gun cotton where no less than eight explosions took place while I was there, about six hours. In each case the only thing for the men to do was to rush for the open air."

Contrast Dr. Hamilton's reminiscence with today's practice which involves dust collectors, scientific

Danger-conscious Monsanto engineering departments rig up special protective platforms and ladders such as this for chemical tank car work—equipment which could well be copied by the so-called "safe" industries.

fume exhausts, automatic controls for chance electrical discharges and delicate measurement instruments. For example, according to insurance company reports, chemistry has gone far toward clearing its house of fire risks. Fire risk in chemical plants insured is 32 per cent less than the average national rate. Furthermore, death rates among employees are lower than for average industrial workers—7.7 deaths from all causes per 1,000 male chemical operators, 8.7 for average employed males.

Other Hazards

Actually power-driven machines, ladders, platforms and hand trucks tolled nearly half of all accidents in the industry last year. Chemicals themselves caused only eleven per cent.

Nearly all truly chemical dangers can be obviated by effective engineering design. As one safety engineer said recently, "When I was asked to make a speech about safe handling of sulfuric acid, I had to point out that our problems are not as serious as they are in plants where acid is used. We hardly ever see the acid, because nearly everything operates under closed systems."

Accidents that begin with human failure have been the primary target of the safety engineers' efforts in the last twenty years. Without active management support and ready employee co-operation, engineers could have done little. Increasingly, safety men have had the co-operation needed.

Monsanto's aggressively implemented beliefs, and that of other companies, is well summarized in a booklet issued to Monsanto employees:

". . . While every man is hired to do some particular work, the safety of himself and his fellow workmen is more important than that work."

This philosophy of operation is reflected in the fact that the industry has in a little over two decades saved over 23,500,000 working days. Figure this in terms of wages that would have been lost, unpaid doctors' bills, higher productivity, the savings are tremendous. Furthermore the nation has not lost production equal to that turned out by 100,000 men working almost a year!

How Safe?

How safe is the chemical industry? The answer is: safer than housework, safer than walking across a street. Safe enough to work a lifetime without losing one day's wages.

Two cuts in maintenance, a rash in A-9, a smashed finger in the machine shop. Add up a month of these dispensary reports and you have statistics. Pore over them and you have cold analysis—frequency 2.6, severity 0.08. These figures are never cold, however, to the safety engineer. This statistical man sees in them a trip in an ambulance, a splinted arm, an acid-burned hand. He used these statistics to persuade and convince, joke and meet with men, supervisors and managers. With their help and active understanding, he batters the accident curve down.

By B. F. AUSTIN, M.D.
State Health Officer, Montgomery, Ala.

Respiratory diseases, of which group of illnesses the common cold is both a causal agent and an important charter member, account for no fewer than 50 or 60 per cent of all industrial absences and from 35 to 50 per cent of all time lost.

THE common cold, which is almost certain to become more and more common during the next few weeks, outranks all other diseases as a cause of absenteeism from work and lost manpower hours, according to Dr. Melvin N. Newquist, president of the American Association of Industrial Physicians and Surgeons. He made the statement during the recent Chicago meeting of that Association.

Dr. Newquist's comments on the cold's absence-creating potentialities are entirely in line with the views of many others, both professional and lay persons. One of the most contagious of all forms of illness, this disease is also the one which most people tend especially to neglect, thus lengthening the chain of infection and reinfection.

While the common cold frequently weakens the body for more serious diseases, we do not usually think of the common cold itself as a cause of death, but the newspapers told about a case of this kind a few months ago. The victim became so despondent because he

Idle machines—X marks the spot where a worker should be standing in his place on the production line—and the chances are better than 50-50 that at the bottom of the trouble is the common cold.

AND THE COMMON COLD

ment's Bureau of Preventable Diseases and the county health departments of new cases of scarlet fever, influenza, pneumonia, whooping cough, tuberculosis, etc. the morbidity reports are completely unrevealing as far as the common cold is concerned. Even if the reporting of cases by attending physicians were required, the morbidity figures would fall quite far short of accuracy, because a physician naturally reports only those cases which he treats. The many cases which do not receive medical treatment—and of course they represent the vast majority of all those occurring—would not be entered upon the epidemiologic records.

In the second place, even if some means could be devised by which a 100-per-cent complete reporting of cases could be assured, it would be next to impossible to put anything like an accurate valuation upon the average case. Some involve very

(Turn to page 54)

caught a cold several weeks earlier and had not been able to get rid of it that he shot himself in the temple. He died soon afterward. "Low spirits" due to a prolonged cold are causing production headaches for many a foreman during this period when the buyers' pressure is on.

Our lack of exact knowledge regarding the cost of the common cold is due to two things. First, it is not one of the contagious and infectious diseases which are required by law to be reported to the public health agencies. Thus, while reports are constantly being received at the State Health Depart-

Inoculations against flu are now standard practice in many industries, the medical departments generally offering the service free of charge.

FROM THE

Fire Prevention Section

OUTSTANDING FIRE CAUSES AND THE LESSONS THEY TEACH

John J. Ahern, Dir., Dept. of Safety Engineering, Illinois Institute of Technology, Chicago:

High among causes of fire are those originating from cigarettes, electricity and its use, heat from pipes, stoves, boilers, and spontaneous ignition. However, two sets of conditions limit the maintenance of the high-powered fire protection departments as known to industry during the war period . . . 1. Lack of maintenance of organized industrial fire fighting departments due to decrease of manpower as caused by personnel layoffs and 2. Laxity in improving conditions which are conducive to fire causes.

Metals Section

MANAGEMENT'S RESPONSIBILITY FOR SAFETY

O. L. Beardsley, Dir., Personnel Departments Service Activities, General Motors Corporation:

If management will use its authority in making additional efforts to support safety in each of its phases, it can produce favorable results. Management can effect this through the use of such mediums as safety teaching, visual education and use of proper equipment.

Testing Respiratory Protective Equipment Section

TESTING RESPIRATORY PROTECTIVE EQUIPMENT

Dr. H. H. Schrenk, Chief Chemist, U. S. Bureau of Mines, Pittsburgh:

The present Bureau of Mines program for testing respiratory protective equipment carries 30 years of experience behind it. Procedure follows a formal publication in the form of a schedule outlining the use and the application of devices under test including detailed results of our laboratory research program . . . which are in turn submitted to the manufacturer (whose device is under test and who is seeking approval) as well as to users interested in purchasing the approved equipment.

Chemical Section

MECHANICAL EXHAUST VENTILATION; VISUAL EDUCATION

William N. Witheridge, Ventilation Consultant, General Motors Corp., Detroit:

Recirculating air exhausted from areas under dust control systems may leave unsafe vapors after removal of the dust. In addition, any saving in heat may be offset by the cost of the cleaning process.

J. J. Hoffmann, Safety Dir., Monsanto Chemical Co., St. Louis:

Even visual-education-slanted safety meetings must have advertising

4TH SAFETY CONFERENCE

Timely and pertinent notes from the 1946 Safety Congress in Chicago are presented here, for the thousands who could not attend, by the OCCUPATIONAL HAZARDS staff, which covered the various sectional meetings and the many colorful exhibits. Other helpful material taken from papers presented will appear in future issues.

aids such as posters and handouts to draw attendance. For teaching overtechnical data use pretty girl or gremlin pictures to tell the story. Pictures must have words chosen carefully, and even demonstrations fall flat unless the accompanying story is spoken well. Forms and models are essential in making demonstration teaching effective in safety.

Cement and Quarry Section

ANALYSIS OF ACCIDENT EXPERIENCE; INCORPORATING SAFETY INTO PRODUCTION

Forrest T. Moyer, Chief, Accident Analysis Division, U. S. Department of Interior, Bur. of Mines:

The constructive stage of the war period, 1941-43, experienced the greatest number of accidents in this section. Still leading in frequency is handling rock at face, an operation responsible for 25 per cent of the total number of accidents. The cement industry improved two points in 1945, limestone, three points, slate 44 points, but marble advanced 16 points to a frequency of over 47.

D. L. Powell, Mgr., Insurance & Property, U. S. Gypsum Co., Chicago:

With good planning, safety *can* be incorporated into production.

Paul B. McInerney, Safety Supr., Certain-teed Prod. Corp., Chicago:

Reasons for such incorporation include: 1. Lower costs. 2. Better employee morale, boosted by safer working conditions. 3. Saving of equipment, speeding of production.

John Kraus, Reg. Mgr., Liberty Mutual Insurance Co., Chicago:

The best ways of incorporating safety into production: 1. Get an architect or designer on your safety committee. 2. Plan men, material and equipment to be automatically safe. 3. Build out hazards, or eliminate them with wise layout, as for instance, don't make employees walk through the grinding room to get to the toilet. 4. Design safe machines and put into use *before* a worker has picked up bad production habits, and insist upon approved methods, considering the supervisory force responsible for production *and* safety.

Emil Meuser, Safety Eng., Marsh & McLennan, N.Y.C.:

We talk too much of safety and not enough of production. We need to

know production engineering, and how to approach managers. To do the job properly we must 1. Convince management. 2. Dig up and present production facts. 3. Show the relation between safety and production efficiency. 4. Achieve a delegation responsibility along the chain of command—getting the top man convinced first, etc. 5. Build accident prevention into the job training program, don't present it just as a pep talk.

Accident Facts

FACTORS CONTRIBUTING TO THE COST OF ACCIDENTS

R. H. Simonds, Economist, Evanston, Illinois:

In determining the *total* cost of any accident, the accounting department should obtain the following information: 1. Time lost by workers other than the injured. 2. Property damage. 3. Injured's time lost, and number of trips made to the medical dept. 4. Overhead cost, if valid. 5. Supervisory cost, at time of accident as well as later. 6. Injured's decreased output, after return to work. 7. Cost of learner replacement, if needed. 8. Total medical cost. 9. Workmen's compensation paid as well as cost of administration. 10. Miscellaneous costs: supervisory time spent in investigation, public liability claims, machinery replacements, lost bonuses, lost profit, cost of hiring new workers.

Labor-Management

John W. Gibson, Ass't. Sec'y. of Labor, Washington, D.C.:

Annually, over one and one-half billion dollars is lost by labor in accidents, not including permanently curtailed earning power factors due to disability. As high as 43 per cent of injuries have an average temporary disability of less than one week and are not compensated. Labor must develop competent men within its ranks to aid management in developing a program of hazard elimination. The attitude of "Papa knows best" does not encourage labor co-operation. If you don't get this co-operation the easy way you'll get it through collective bargaining channels. Handicapped workers should be looked at not as to what they have lost, but what they have left to work with.

James Brownlow, Metal Trades Dept., A.F.L., Washington, D.C.:

Safety is one sphere in which both labor and management can profit. The clamor for greater compensation benefits by labor has made management more safety conscious. But the greater clamor should be for safety and prevention, not just compensation. Education and local on-the-job operation is more effective than national lip service.

John Kumpel, Special Representative, C.I.O., Akron:

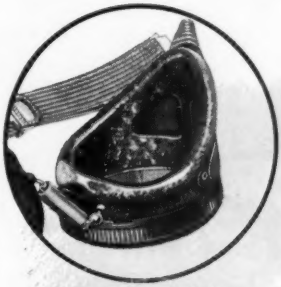
The C.I.O. believes: 1. Responsibility rests with management. 2. Labor-management committees should have full power in safety, drafting plans to be covered by union contracts, and which include frequent safety meetings as well as joint safety inspection tours. 3. Records should be kept of all meetings. 4. Safety programs should be planned which include safety awards, representation at safety functions, area clinics, and the study of compensation laws, safety codes, and worker education.

Alvin A. Voit, President, the Mengel Co., Louisville:

Over the door of the employment office of the Mengel Co., holder of a million man-hour safety record, a sign reads: "Unless you are willing to be careful of yourself and fellow workers, do not ask for employment here —we want only careful workers." Union contracts should include safety clauses. A safe flow of work is an economic one.

You can *See* Quality IN CESCO SAFETY EQUIPMENT

The gently-resting comfort • bridge on Cesco spectacle goggles is an exclusive quality feature.



The contour-molded, snug-fitting eye cups on Cesco goggles—a quality and comfort feature.

Cesco's acid hood offers, among other outstanding features, acitex material which resists the 5 most injurious acids.

The exclusive air-distribution tube in the Cesco *Air-Flow* welding helmet is only one of its quality features.

• Look at any Cesco product. In each you'll see features and workmanship that represent Quality.

Like the **comfort • bridge** on Cesco goggles, the texture of the Acitex hood, the molded goggle cups, and the engineering details of the *Air-Flow* helmet—each Cesco product has distinguishing quality features.

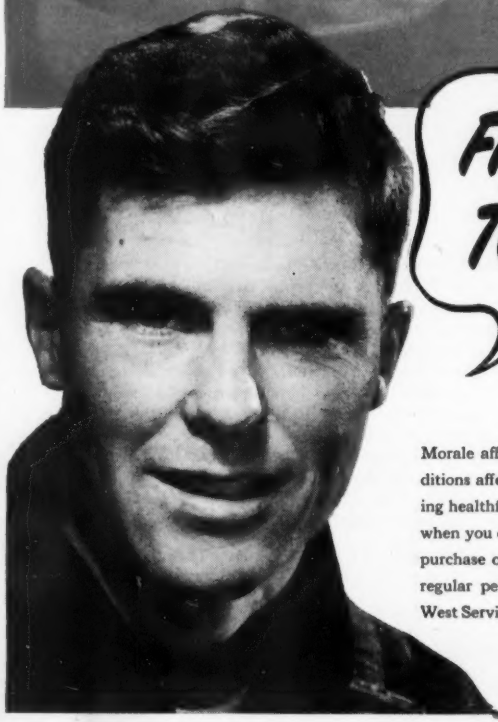
Cesco Quality starts with the designing of a product. Quality is added during experimental and job-testing periods. And, quality is then manufactured into Cesco equipment through exacting attention to detail and expert workmanship.

It is important to consider Cesco Quality when you buy safety equipment.

CHICAGO EYE SHIELD COMPANY
2308 Warren Boulevard • Chicago 12, Illinois

CESCO FOR SAFETY

THANKS TO WEST...



FINE PLACE TO WORK!

Morale affects production, and washroom conditions affect morale. Yet the cost of maintaining healthfully clean washrooms is insignificant when you enjoy West Washroom Service. Your purchase of West service items entitles you to regular periodic washroom service by trained West Service Men. *There is no additional charge.*

WEST'S TRAINED SERVICE MEN REGULARLY TAKE CARE OF...

BOWL CLEANING

Even over a comparatively short period of time, traps of toilet bowls and urinals collect certain salt and sugar secretions, causing offensive odors and unpleasant conditions. West has developed a special material which West Service Men use to loosen this mass of solids, and clean the pipes and traps.

AUTOMATIC DEODORIZATION

The West Automatic Drip Machine is designed to meet a need of proper washroom deodorization in a simple, economical and efficient method. When placed above toilets and urinals, an aromatic liquid constantly drops into the bowl, tending to overcome washroom odors at the source. This machine also deodorizes the air of the entire washroom. West Service Men inspect and refill these automatic devices as required.

SPRAYING WITH ODORLESS DISINFECTANT

WESTAMINE is an odorless disinfectant used by West Service Men, especially designed for the routine spraying, cleaning and scrubbing of washrooms. It is especially prepared to fulfill the demand for a spray fluid of definite bacteriological strength without the usual odor of most spray fluids.

WEST DISINFECTING *Company*

42-16 WEST STREET • LONG ISLAND CITY • N. Y.

CLIP TO YOUR BUSINESS LETTERHEAD, PLEASE

West Disinfecting Co., Dept. OS
42-16 West St., L. I. City 1, N. Y.
Please send us your booklet "West Washroom Service".

*Name*_____ *Title*_____

De-Hazarding the STEEL

By J. WILLIAM FEHNEL, Metropolitan Life Insurance Company

Conclusions based on a paper by J. William Fehnel, Metropolitan Life Insurance Company, presented before the 1946 convention of the Association of Iron and Steel Engineers, Cleveland, Ohio, commemorating the beginning of the 40th year in the Association's pioneer teaching of safety, a work begun in 1907 and developing five years later into the National Industrial Safety Council.

OVER the past 30 years, iron and steel workers, once admittedly engaged in the most hazardous of all industries, have achieved an 80% reduction in accident frequency.

The "big three" dominating industrial relations in the steel industry has now become Wages, Hours, and Working Conditions, a pattern for all industry. The greasy badge of the machinist is gone and in its place is a clean worker who bathes at the end of the shift, changes clothes, and leaves the plant looking like an office man.

Handling of materials from the mines to the finished product now

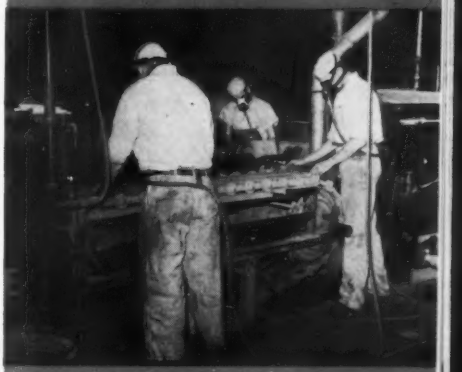
This orderly-looking round wire drawing room of the American Steel & Wire Company's Worcester, Massachusetts, mill is a far cry from the hazardous, dingy, floor-cluttered plant of the early days of the industry. Each machine shown in the picture has a neat production capacity of five tons of wire per eight-hour shift.

Industry...

undergoes careful supervision for the detection and elimination of hazards to handlers.

Foundry workers in 1922 prior to the inauguration of a 15-year inspection program succumbed in great numbers to respiratory diseases. Mortality was two and one half times that of all other industries combined. The institution of chest X-rays and the systematic elimination of dust hazards through exhaust systems, ventilation and good housekeeping changed the entire picture. Fifteen tons of dust were taken from the beams and rafters of one foundry in its initial clean-up, while another foundry owner was surprised to find concrete walks throughout his plant following the removal of three feet of dirt.

In ore mining, dry jack-hammer drilling gave way to wet drilling, good exhausting, water curtains,



The entrance end of this modern gas-fired hardening furnace used for tempering strip steel is so well constructed that the workman needs but a pair of goggles in the way of personal protection. (American Steel Photo) (Top)

Air-line respirators are being used by these men working in a department where lead is a hazard—a comparatively modern solution to a long-standing exposure problem. (Center)

This foundry sand blasting room with door open and ceiling lifted for the purposes of taking the picture is a completely enclosed, exhausted unit, with the operator protected against silicosis by special air-line respirator equipment. (USPHS Photo) (Bottom)

and wet crushing to eliminate silicosis hazards.

Pig-Casting

In pig-casting operations, the continuous hazards of sulfurdioxide, lime, steam, radiant heat and dampness are now controlled and workers are warned against them. Car operators and coal chargers, exposed to carbon monoxide, dense smoke, hydrogen sulfide and sulfur dioxide, are aided by devices that sample air in the breathing zone and record dangerous concentrations or give audible alarms. Anthracene as a dermatitis producer is on the supervisor's check list.

Silicosis-producing dust generated in the repairing and relining of ovens is now recognized and controlled. Coke oven by-products such as benzol and carbon disulfide have been evaluated for their true toxicity and self-contained oxygen apparatus or air-line respirators are provided in danger zones. In open hearth relining brick-dust is now known to be a silicosis hazard and collapsed furnace roofs are considered the worst type of repair exposure. Ladle relining is also under control as a silica exposure.

Lead pots for lead baths in the plant laboratories are now exhausted as lead is known to provide a cumulative toxic effect. The stock house is listed as a gas hazard, especially regarding deadly carbon monoxide.

Alloys

Alloys added to steel call for the danger signals. The crushing of manganese ore is under the hygienist's observation. Fumes at the time of mold-pouring are sampled for toxic ingredients. Tarred molds produce a dangerous anthracene hazard, making personal protective equipment necessary. The addition of lead in ingot-pouring calls for exhaust ventilation.

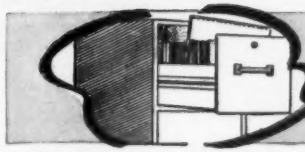
Ventilating fans and roof monitors aid in making conditions safe around electric furnaces. Manganese, molybdenum, chromium, vanadium, and selenium give off dangerous fumes when heated.

Objectionable Vapors in Acetate Plant Controlled by Special SCHNEIBLE Units

For the removal of air heavily charged with hydrogen sulphide and ammonia in a plastic bottle cap plant, Schneible engineers designed the system partially pictured above.

As metal piping would not stand up long in this service, wooden ductwork was employed. A special 12,000 c.f.m., 7-stage Schneible has water piping for four separate solutions; providing the additional cleansing needed.

CLAUDE B. SCHNEIBLE COMPANY
2827 Twenty-Fifth St., Detroit 16, Mich.



Useful Literature

→ To keep your available equipment files up to date, check those subjects in which you are interested and simply list in the card bound into this issue the numbers of the items you wish to receive. This card is for your convenience—no postage required. ←

FL-535. SELF CONTAINED BREATHING APPARATUS — Illustrated bulletin on the Scott Air-Pak, a self-contained breathing apparatus for industrial, fire, police and general applications. A product manufactured by Scott Aviation Corp.

FL-536. METAL FUME RESPIRATOR—Information on the "Comfo" metal fume respirator especially adapted for protection against harmful fumes from molten or heated metals. Distributed by Mine Safety Appliances Co.

FL-537. HAND CLEANER—Kutol Products Company bulletin describing *Kutol*, a powder type hand cleanser for industrial washroom use.

FL-538. MECHANICAL ARTIFICIAL RESPIRATOR—E & J Manufacturing Co. pamphlet concerning the E & J Resuscitator Inhalator and Aspirator used for rescue work in industry and by fire and police departments.

FL-539. MECHANICAL FOAM FIRE EXTINGUISHER—A new bulletin prepared by The Mearl Corp., describing *Mearlfoam 5*, giving general information about a liquid foam compound for use in combatting fires involving emergency rescue and salvage operations.

FL-540. MAGNESIUM DOCKBOARD—Information on MAGCOA dockboards, a new product for materials handling safety manufactured by the Magnesium Co. of America, aimed to replace unwieldy steel plates used as bridges between loading docks and freight cars or trucks.

FL-541. SKIN CLEANSER—Descriptive leaflet of the Stephan Chemical Co., on their product Stephan pH6 sulphonated oil, non lathering skin cleanser.

FL-542. PRESERVATIVE—Descriptive illustrated mailing piece on Rot-Stop, a wood, rope, canvas and cloth products liquid preservative for industrial uses. Manufactured by Rockford Paint Manufacturing Company.

FL-543. EXHAUST TUBING—New bulletin on "Spiratube," a lightweight, flexible tubing used to exhaust air, dust and spray. Suitable for a great variety of semi-permanent as well as permanent applications. Available from Warner Brothers Company, Spiratube Division.

FL-544. SMOKE DETECTOR—Information on a smoke detector designed primarily for use in air-conditioning ducts, ventilating systems, or any place where it is desired to detect the presence of smoke and operate a sustained alarm, stop a blower motor, or both. Manufactured by the Electronic Control Corporation.

FL-545. FACTORY LIGHTING—This 30-page bulletin issued by Benjamin Electric Company is a guide to solving lighting problems; includes data relative to productive industrial lighting for maximum employee efficiency.

FL-546. INDUSTRIAL HAND SOAP—Descriptive pamphlet available from Chemical Corporation on Kemsuds, a new, non-irritating powdered soap product manufactured in mild, regular and heavy duty types for use in promoting industrial hand cleanliness.

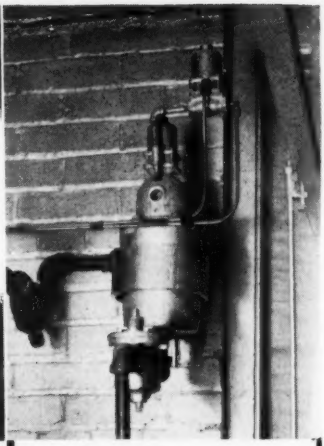
FL-547. FLOOR MAINTENANCE—"Tough Floor Problems?" a newly published folder issued by the Stonhard Company, deals with the repair and construction of floors that are subject to acids, greases, oils and severe abrasion.

FL-548. SPECTACLE-TYPE GOGGLES—Four page pamphlet describing a new line of Specti-Goggles manufactured by Eastern Equipment Co. Adapted to cover industrial grinding, chipping, welding and similar hazards.

FL-549. EQUIPMENT GUIDE—A body safety guide which classifies 21 hazardous types of work found in 18 industries and recommends the proper safety clothing and equipment for maximum protection. Published by the American Optical Company, for free distribution.

FIRES?
STATIC ELECTRICITY?
EXPLOSIONS?

Reduce these hazards with . . .



ARMSTRONG HUMIDIFIERS

WINTER is the time of year when the natural moisture content of the air drops to a low point. Indoor heating further dries out the air. All of this adds up to just one thing: DANGER, if you are working with inflammable materials such as solvents, lacquers, thinners, paints, munitions, gases, or even just plain dust.

Armstrong Steam Type Humidifiers are widely used to correct dry air conditions and reduce static electricity. For complete information, ask for Bulletin No. 158 B.

Easy to install

• Armstrong Humidifier AK-12 (illustrated above) is an air-operated explosion-proof type listing at $175.00. Even the humidistat is air operated. It uses steam out of ordinary heating lines and has capacity for handling as much as 40,000 cu. ft. of space. If more capacity is needed, use multiple units or AK-14. Electrically operated types available for general service.

ARMSTRONG MACHINE WORKS

900 Maple Street,
Three Rivers, Mich.

Factory Representatives in Leading Industrial Centers

AT THE FORD MOTOR CO.

Here are the rules in use at one of the world's largest automobile plants. They are just as applicable to the smallest shop.

1. Use no oil or grease on cylinder caps, regulators or valves, nor wear greasy gloves; and never store cylinders where grease or oil will drop on them. An explosion may occur if you violate this rule.

2. Close valves when leaving the outfit. This is a must in case of hose fires.

3. Always see that all pressure is released from both diaphragms after shutting off valves.

4. Never use a wrench or other tools on cylinder valves. Use key fastened to welding outfit (18 inches long).

5. Do not drop cylinders over steps or off platforms.

6. Keep cylinders away from salt and other corrosive chemicals and fumes.

7. When shutting off torch, or in case torch back-fires, close oxygen valve first.

8. Common causes of back-firing are:

(a) Allowing the tip to get too hot—cool in water often.

(b) Holding the tip too close to the job.

(c) Knocking or rubbing the tip when welding.

(d) Allowing the tip to get corroded with metal—clean hole with thin wire.

(e) Making hole larger. Ream the tip from the inside with a tapered reamer to overcome this.

(f) Insufficient pressure of acetylene, when lighting torch.

(g) Not opening valves and letting air and gas flow through lines for a few seconds before lighting, after changing either of the cylinders.

9. When changing empty oxygen and acetylene cylinders for full ones, observe the following: (a) shut off valve on empties; (b) release thumbscrew on regulator; (c) disconnect regulator and connect on full cylinder; stand on opposite side while opening valve. After cylinder is open adjust thumbscrew on regulator to proper pressure.

10. Always blow out valve before attaching regulator.

11. Point the acetylene valve outlet away from oxygen, and never face gauge while opening.

12. Where two or more sets of cylinders are used, keep at least ten feet apart.

13. Positively never carry cylinders by crane or hoist.

14. When tanks are empty, turn off at valve and mark "M.T." or "Empty."

15. Do not endeavor to repair a leaking cylinder. Remove it from the building immediately. Proper mixture of acetylene and air will cause an explosion.

16. Never weld around inflammable material, such as paint, oil, coal and so on.

17. See that flame or spark does not touch cylinder or hose, and don't hang torch on a cylinder.

18. Use wet sand or dry lime to extinguish acetylene fire—keep fire extinguisher handy for other fires.

19. Before welding any tank whatsoever, see that the gas vapor is thoroughly blown out with steam, and get foreman's O.K. before starting it. Do not depend on hot or cold water.

20. Keep cylinders under roof out of strong sunlight and keep away from heat, as this will cause expansion of the contents and "blow" the safety plug. If safety plug should "blow" inside of building, endeavor to remove cylinder to the outside, if consistent with your safety.

21. Remove all hooks from racks, to prevent operators from hanging torch there when lit.

22. The mixer and tips should be of the same size so they will screw in properly.

23. When cutting or welding, do not use a cylinder, empty drum or barrel for support.

24. Keep the acetylene cylinder upright, unless it is impossible to do so; then raise outlet up a little. This will prevent the acetone running out.

25. Never endeavor to repair welding equipment yourself. If gauge is defective refuse to use it

A portable oxygen-acetylene welding unit. This includes safety chains, steel guard between cylinders, special wrench and long 18" T wrench clipped to side of steel plate to shut off acetylene in case of fire.

wise the hose and other parts. and exchange for new one. Like-

26. Be sure that hose is properly connected. Use hose clamp instead of wire.

27. Put nothing on top of acetylene cylinder or you may damage the safety plugs.

28. Standard steel tubes, 63 Z 566, must be around cylinders for your protection.

29. Do not leave tip of torch sticking in a hole in any barrel or tank. If torch leaks this will result in an explosion when it is lit.

30. Do not roll cylinders on floor.

SPEED
PLUS
PROTECTION
WITH A CURTAIN OF
SPRAY
THE ADJUSTABLE NOZZLE
ALFCOSPRAY
The Alfcospray may be operated from straight stream to full curtain. In a straight stream it is as effective as a standard straight bore nozzle of equal capacity. In full curtain it offers protection from heat and flame. It knocks down heavy smoke, dissipates fumes. Now is the time to buy. BEFORE the fire occurs.
Write for full particulars.
STREAM
SPRAY
CURTAIN
A TWIST OF THE WRIST GIVES INSTANT ADJUSTMENT
AMERICAN-LAFRANCE-FOAMITE Corporation
ELMIRA NEW YORK U.S.A.
There is an Alfcospray Model E Nozzle available for all sizes of hose from ¾" to 2½" to suit your requirements

Health and Employee Protection at Willow Run

Extensive medical and safety programs designed to protect office and factory employees have been established by the Kaiser-Frazer Corporation and Graham-Paige Motors Corporation at their Willow Run Plant.

C. H. KEENE, M.D., recently returned from four years of Army service, is director of the Medical Section of the Kaiser-Frazer Corporation and is assisted by W. E. Dolfin, M.D., also a veteran of four years' Army medical duty.

All new employees at the Willow Run plant are given a thorough medical examination. The pre-placement physical examinations include:

A. Thorough physical examination.
B. Audiometer and eye tests.
C. Blood pressure tests.
D. Kahn blood test.
E. Chest X-Ray.
F. Urinalysis.

The Kaiser-Frazer management and Dr. Keene feel that a physically well man is not only a productive worker but a safe worker, according to Edward D. Riordan, director of industrial relations, who stated: "We cannot secure all 100 per cent physically fit workers but we can, by a thorough pre-placement examination, determine the applicant's physical defects and by so doing advise him as to correction."

Applicants with correctable physical defects, who are employed, are advised of their physical condition by the medical department, and are required to have the disability corrected within a given period of time. With this stipulation they are placed at work and are required to furnish periodic statements from their personal physician as to the progress of treatment. Seldom does the physical examination alone keep a man from securing employment. The physical examination does, however, permit the placement of the applicant in an occupation

A nurse at the Willow Run plant of Kaiser-Frazer Corp. and Graham-Paige Motors makes a chest X-Ray in a pre-placement examination of a new employee.

comparable to his physical ability.

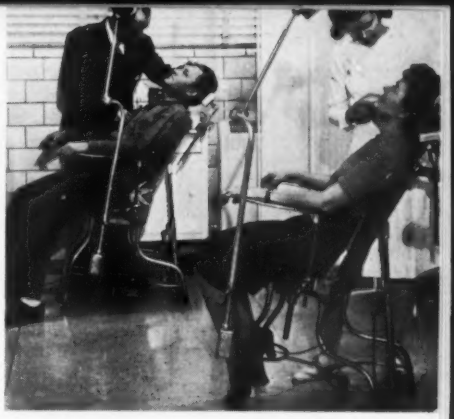
Seven First Aid Stations are strategically located throughout the 109-acre Willow Run plant. They are of varying size and are equipped to handle all emergency first aid cases. In addition, there is a 27-room, completely furnished central hospital where any type of accident can be treated and patients hospitalized for any period of time.

Work Hand in Hand

The Medical Department and the Safety Department, headed by Kenneth Millington, work hand in hand. Safety calls upon Medical for its views on possible health hazards and Medical calls upon Safety for a report on conditions existing if an accident should occur. The Medical and Safety departments establish physical requirements for all types of hazardous occupations. Special attention is given to the physical condition of employees engaged in driving company vehicles, and to crane operators, electricians and millwrights, to reduce the potential hazard of the job by the placement of physically qualified operators.

A single tripping accident has marred an excellent plant conversion safety record of 1,500,000 man-hours of work with the result that the plant frequency rate is .7 while the severity rate is .03.

Believing that good food is important to health and efficiency on the job, the companies have established two large cafeterias to feed the working force. The cafeterias will be increased to seven as employment increases.



In the "eye room" in the large, immaculate Willow Run hospital, a nurse and doctor remove foreign bodies from the eyes of two employee patients. Note the modern stainless steel equipment. This is one of several rooms in which special types of injury cases are treated.

Including the Willow Run airport, to be taken over entirely by the University of Michigan, there are 1,878 acres under fence at Willow Run. The Kaiser-Frazer plant protection force provides both fire and police protection for the airport and other buildings as well as the Kaiser-Frazer plant. Total building floor area approximates six and one half million square feet. Protection and employee service equipment includes 128 sprinkler systems, 196 fire-police patrol boxes, 91 fire hydrants, hundreds of drinking fountains, 56 shower installations, and parking lot facilities for 15,300 cars.

In connection with the general occupational safety program, the company has arranged a group insurance program which provides the participating employee with benefits of a minimum of $15

Devoted exclusively to the medication of hand injuries, this is one of the special treatment rooms of the large, modern Willow Run plant hospital. Skilled nurses are on duty at all times.

weekly for 13 weeks for each case of disabling illness or injury, and life insurance of $2,000, at a payroll deduction cost of slightly more than $2 monthly.

"One of our first undertakings," Riordan said, "was to provide safe, healthful and comfortable facilities for our employees. We consider that Willow Run actually is a complete city, and, as we expand our personnel to an estimated 8,000 to 11,000 in the ensuing months to manufacture Kaiser and Frazer automobiles and farm equipment, we will expand our employee facilities accordingly."

Winterized Roadways

To eliminate the hazard and delay that could be caused by winter's snow and ice on a 600-foot long, two-lane roadway leading into the Bridgeville, Pennsylvania, plant of American Cyanamid Company, engineers of that firm have designed a unique snow-removal system consisting of hot water pipes embedded in the concrete pavement.

The road, 24 feet wide, is on a constant up-grade from the plant to a main thoroughfare. Snow and ice would make it virtually impassable, creating a severe traffic problem especially during shift changes.

Company engineers conceived the idea of planting pipes in the roadway after they learned of the success of similar snow-melting systems in loading areas and sidewalks at other industrial plants and residences. The structural principles involved in designing and installing the system are somewhat related to those encountered in radiant heating work.

Foundry Control 1947 Edition

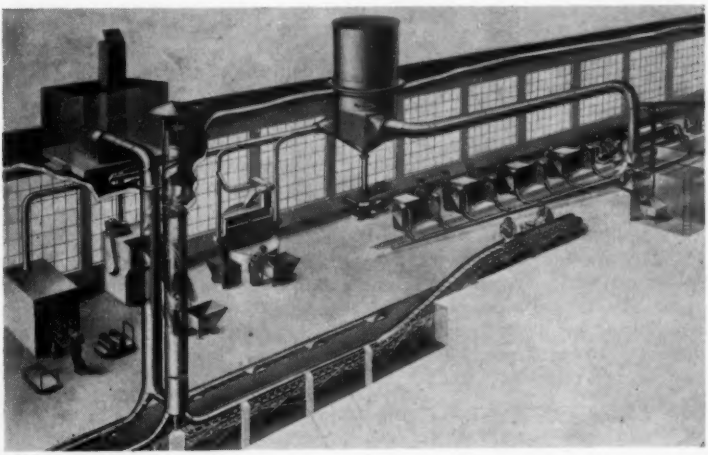
ANYONE who walked through the cleaning room of a foundry 20 years or more ago will recall the dust and fume-laden atmosphere, and frequent remarks. "This is a H— of a place to work," or words to that effect.

Today cleaning rooms are different—an ever growing number are with all dust and fume-creating operations controlled by an all-over system, which includes completely enginered ducting, correctly designed controls. The accompanying illustration, furnished by Claude B. Schneible Co, Detroit, pictures the modern day trend of tying together all dust and fume creating operations into a single control system to reduce operating and maintenance requirements.

Shown in the illustration are a swing grinder, rotary shot blast mill, table type shot blast mill, pedestal grinders and tumbling mills. Dust and fumes from these operations are continuously removed and ducted to a Multi-Wash collector in the center background. Water is used to remove all contamination from the collected air, and there is no accumulation of dust to require disposal. The collected matter, as sludge, gravitates to a dewatering tank on the exterior of the building (not shown) where the solids are efficiently settled out and the water is made available for repeated use in the collector system.

In the left foreground is shown the fume control of the hot castings conveyor. Cool air down the vertical tube at right ventilates the tunnel, while the fume-laden air goes up the other tube for discharge to the atmosphere.

The foundry cleaning room is typical of the type of good housekeeping that attracts and holds a better grade of labor for industries.



CONTROL SMOKE—CUT COSTS

Industry has an incentive which should induce it to take the lead in controlling air pollution. That incentive is reduced costs. Smoke, being the result of incomplete fuel combustion, is an indication of waste. Smoke prevention results in more uniform heating, a saving in fuel, and a resulting drop in operating costs.

THOUGH an overall plan for smoke abatement requires the co-operation of domestic users of fuel, industry can make its own contribution to healthful atmospheres by adhering to the rules of good furnace operation. The primary cause of smoke is the failure to secure a sufficient amount of air, intimately mixed, at the proper temperature, with the combustible gases that are given off by the burning fuel. The secondary cause is carelessness, ignorance, and indifference in the firing and operation of the fuel-burning equipment.

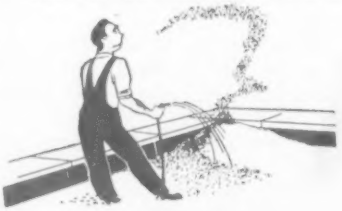
Smoke can be prevented by:

1. Using a fuel suited to the equipment.
2. Keeping the equipment in good condition.
3. Firing carefully and intelligently.
4. Using automatic fuel-burning equipment wherever possible.

A large portion of the solids contained in city air could be eliminated by proper operating practice. Listed below are some of the common errors that many engineers and firemen commit.

1. Cleaning fly ash accumulation at base of stack by stirring up ash so that it is discharged out of stack.

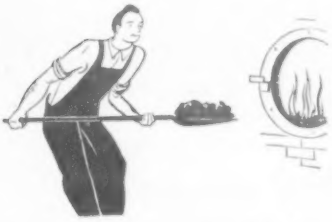
This "easy" method of getting rid of fly ash is one of the principal causes of heavy dust fall. The proper method is to wet the surface of the ash accumulation at the base of the stack before the cleanout door is opened. A one-inch hole should be cut in the stack at a level higher than the ash is ever allowed to accumulate. This hole should be kept covered, except when water hose is inserted to wet ash. After the ash has been wetted at the base of the stack, the cleanout door can be opened and the ash disposed of.



Sprinkle ash and dust before removal.

2. Cleaning breeching and settling chambers in boiler at irregular and infrequent periods.

When fly ash accumulates in a breeching or other space intended for gas passage, flue gas velocities increase. As a result, ash is prevented from settling out of



Fire boilers carefully and intelligently.

the stream of flue gases. Breechings should be provided with fly ash hoppers so that the ash may be removed without possibility of it being stirred in gas stream.

3. Burning rubbish in base of stack or on grate of unused boiler with damper wide open.

This practice permits the discharge of large quantities of charred paper into the atmosphere.

4. Using cleanout door in breeching or at base of stack as a means of securing ventilation in a boiler room.

An open cleanout door reduces the available draft in the furnace, often causing it to smoke. It also permits the entry of large volumes of air, increasing the flue gas velocity and thus preventing the deposition of dust. Any opening below the breeching level prevents that part of the stack from acting as a settling chamber. The upward movement of air into this zone, which should be in a quiescent condition, prevents any settling or accumulation of dust.

5. Blowing tubes with dampers wide open or at frequent intervals.

When tubes are open, discharge of solids ranges up to one hundred times the normal discharge. Great care should therefore be exercised when tubes are being blown. Dampers should be blown or cleaned as often as is practical. Soot prevents the transmission of heat through the tubes into the water to be heated. High stack temperatures not only mean inefficiency in fuel economy but also greater discharge of solid matter from the stack.

Keep the equipment clean and in good condition.

6. Operating a steam ash ejector which is directly vented into a boiler stack.

A steam ash ejector directly vented into a boiler results in fine ash being discharged out of the stack. Settling chamber and water sprays should be used to remove dust from steam before system is vented into boiler stack.

7. Allowing continuous discharge of light smoke.

In many plants, little or no attempt is made to reduce light smoke discharge from stacks; yet the total dirt discharged into the the atmosphere may be much greater when a stack operates with a light continuous smoke than when the same stack emits heavy smoke for relatively short periods.

8. Failure to remove dirt accumulation on roof.

Heavy winds sweep up dirt accumulation on roofs and spread it. Roofs should be cleaned frequently by wetting dust and removing it.

9. Delivery of untreated fuel containing fines.

Fines of untreated coal are spread over the neighborhood when dumped. Heavy winds sweep away considerable amounts of the fines if the coal is allowed to remain in an exposed pile for any length of time.

Industrial Health Bulletin
Ottawa, Can.

U. S. Rubber at Top

Outstanding safety records enabled six United States Rubber Company plants to carry off top honors for the rubber section in both the larger and smaller plant groups, according to annual safety contest awards made this year in Chicago at the National Safety Congress.

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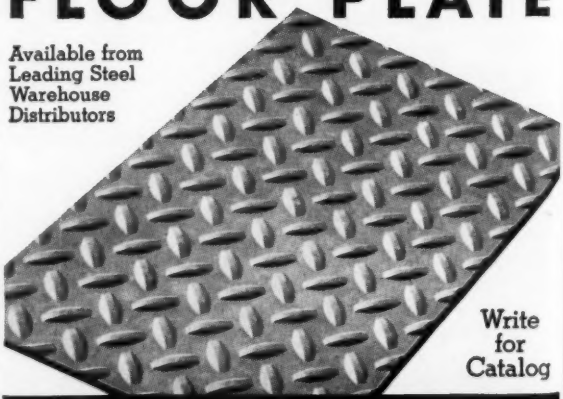

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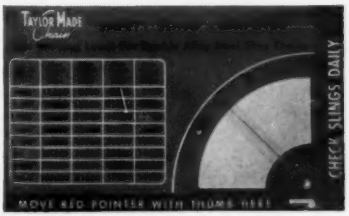
TIRE FABRIC MATTING—Announcement has been made of the production of Tuf-Tred, tire fabric matting by American Mat Corporation, Toledo 2, Ohio.

This matting is constructed of corrugated tire fabric links, laced on galvanized rust-resisting steel wires. No metal is exposed to cause a cutting or tripping hazard. **NP70**

SAFE LOAD COMPUTER—A handy computer, designed to give hookers an accurate yardstick with which to determine the maximum safe load that a



sling chain can lift at any given angle, has just been produced by the S. G. Taylor Chain Company of Hammond, Indiana.

The hooker sights through the window of the computer on one leg of the sling chain. He then moves the needle of the computer to line up with the leg that is sighted. The angle of the chain is read at the end of the needle. The safe working load for the size chain being used may then be found on the scale on the opposite side of the computer.

The Safety Sling Computer is printed on plastic and can therefore be kept clean for easy reading. It is offered without charge to all sling chain users. **NP71**

SAFE RADIATOR—A radiator that uses no water or steam and yet gives off heat almost instantly is now on the market. You just plug it into any electric outlet. Developed by a new Detroit organization, Henry J. Morton Associates, Inc., it is already in mass production and is now being made available through electric supply outlets.

Named the Morton CO-Z-AIR (because it is said to heat an entire room without ever getting too hot to touch), the radiator operates on a dual-heat principle: radiation and convection. In addition to radiating heat like conventional radiators, it draws cold air off the floor, passes it through the radiator—heating it on the way—and expels it through concealed vents. All this is done without a fan. **NP72**

NON-SLIP FINISH—Sure-Grip, a "shock-resisting, non-corrosive, non-slip safety finish," is now being produced by Plasti-Kote, Inc., Cleveland.

Plasti-Kote Sure-Grip is said to provide positive protection against painful falls and serious injuries resulting from slippery floors, with material that makes floors, decks, stair and ladder treads non-skid. It can stand outside exposure and therefore can be used on exterior as well as interior surfaces. **NP73**

PALM-COATED GLOVE—A new Edmont knit wrist style glove has palm and fingers coated with Neoprene to provide extra wear and resist water, oil and other liquids. The back is uncoated tan canton flannel to permit free ventilation and make the glove more comfortable and flexible to work in.

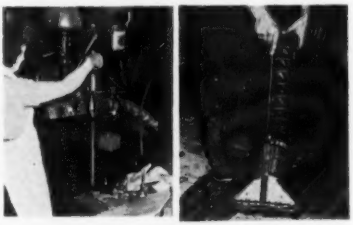
The manufacturer, Edmont Manufacturing Co., Coshocton, Ohio, reports that these gloves are now available for factory, farm and home use and are fine for handling wet or moist objects as well as abrasive materials such as stone, lime and cement. **NP74**

ALL-OVER SHIELD—American Optical Company, Southbridge, Mass., announces a new cellulose acetate face shield designed to give extra over-all protection, especially on jobs such as babbitting, handling chemicals and on operations in the manufacture of high octane gas. The shield also guards against impact of flying particles and splashes of acids, oils, alkalis, hot water, etc.

The fibre head guard protects the upper forehead and covers the entire top of the head as an additional safeguard against injury. The band slides within a fibre sleeve in back, permitting easy adjustment to varying head sizes. A metal knob allows for quick adjustment. In front, a leather sweatband absorbs perspiration. Positive friction joints hold the window in "on" or "off" guard position. **NP75**

FLEXIBLE TUBING—For handling air, dust or other light solids under crowded conditions, the Spiratube Division of the Warner Brothers Company, Bridgeport, Conn., offers "Spiratube," a self-extending, non-collapsible but retractable tubing. The left illustration shows one application where Spiratube exhausts dust resulting from the drilling of bakelite gauge cases.

In the cabinet-making department of Seth Thomas Clocks, Thomaston, Connecticut, Spiratube is used as shown in the other photo to pick up sawdust, shavings and chips and con-



vey them to the main exhaust line. The Spiratube has on its discharge end a sheet metal adapter with lugs which fit into a bayonet slot in the main exhaust line. The intake end of the tubing is clamped to a metal nozzle, on which a metal strap is bolted to serve as a handle. **NP76**

The trend of litigation on workmen's health and accident compensation is reflected in these briefs on the latest and most representative cases coming to trial in the intervals between issues. Familiarity with this trend is important to every industrialist. Clip cases and file for future reference.

Employee Injured While on Parking Lot of Employer

FRANK PURINTON, is a marine electrician or wireman and was hired as such by Everett Pacific Shipbuilding and Drydock Company. The character of work performed by him under his contract of employment was of an extra-hazardous nature.

The employer operated a large shipyard situated partly on a fill in the harbor fronting the city of Everett. Adjoining the company's property on the east but separated therefrom by a high fence, was a parking lot which the company either owned or leased, or else otherwise controlled. The parking lot was reserved, maintained, and used by the company solely for the accommodation of those in its employ, many of whom traveled to and from work by automobile.

Through the middle portion of the parking lot a 600-foot lane, a part of which was paved with black-top, extended in an easterly-westerly direction and served as a passageway from the street on the east to the entrance gate of the shipyard. On each side of the lane was a barrier railing. The lane was commonly used by employees driving or walking to and from work. Those who came by automobile parked their cars in the area adjacent to the lane.

On the morning of January 25, 1945, at about 7:50 A.M., Purinton arrived as usual in his automobile at the east entrance to the parking lot, intending to park his car in the reserved area and then report for duty in the shipyard at 8:00, which was the regular time for commencement of work by him.

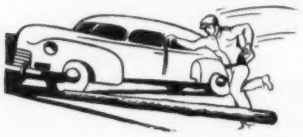
Log Across Lane

Owing to some improvement which the company desired to make in that particular part of the lot, a large log had been placed by its employees across the lane at a point about 200 to 300 feet east of the entrance gate of the shipyard. This was done to prevent automobiles from using the portion of the lane in that vicinity.

Purinton therefore parked his car in the street on the east and then proceeded on foot along the lane toward the entrance gate. The distance from where he parked his car to the point where he was to do his work within the shipyard was nearly a mile.

While in the act of stepping over the log an automobile approaching from the east and driven by a fellow workman, who failed to see the obstruction on account of the semi-dark-

ness, struck one end of the log causing it to lurch or roll forward. Purinton was thrown to the ground and while he was in that position the log rolled



partly over him, inflicting the injuries for which he seeks compensation in this action.

The trial court came to the conclusion that at the time he sustained injuries he was on his way to work and at that time was *ON THE PREMISES* of his employer. As a consequence it was concluded that Purinton at the time of his injury was "in the course of employment." This conclusion presents the disputed question in the case before the Supreme Court.

In this connection, it is to be remembered that the accident occurred ten minutes before the hour of commencement of work by Purinton and that at that time he had not yet entered upon the actual performance of the duties for which he was employed by the shipbuilding company. Purinton contended it is not necessary that at the time of receiving an injury a workman be actually at work or that the occurrence take place within his actual working hours, or that he be entitled to receive pay from his employer for the immediate time.

Under the Workmen's Compensation Act the conditions essential to recovery are as follows: *first*, the relationship of employer and employee must exist between the injured person and his employer (except in some cases where the injured person is an independent contractor); *second*, the injured person must be in the course of his employment; *third*, the employee must be in the actual performance of the duties required by the contract of

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• Solutions that would be entirely harmless to the skin surfaces may injure the eye severely, due to osmotic pressure changes within the membrane cells. Pure water or hypotonic solutions used in the eye favor development of edema or swelling, while solutions of a higher salt concentration than the tears may cause a shrinkage or loss of water from the membrane cells.

It is important, therefore, that any aqueous solution used for cleansing or washing the eye be very close to the same osmotic pressure or be in isotonicity with the tears which normally bathe the eye. The osmotic pressure of the tears is normally much higher than that of the blood, corresponding to about 1.4% solution of salt. Murine has been adjusted to this range of osmotic pressure.

Normally, the tears are slightly alkaline, having a pH of approximately 8.0. Marked changes from this hydrogen ion content may also cause irritation. Murine has, therefore, been buffered to this pH range.

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employment; *fourth*, the work being done must be such as to require payment of industrial insurance premiums or assessments.

In conformance with the ruling in D'Amico vs. Conguista, 167 Pac. Rep. 2nd series page 157, the claimant must be in actual performance of his duties required by contract of employment, before he can recover. Since this decision is binding by the court in the instant case, and by reason of the fact that the accident occurred ten minutes before Purinton was scheduled to appear for work and he was at the time approximately a mile from the place where he actually worked, he therefore was not "in the course of employment" as that term has been defined by this Court. As a consequence the trial court was reversed and claim rejected.

Purinton vs. Dep. of Labor & Industries
Supreme Court of Washington July 11, 1946
170 Pac. Rep. 2nd series page 656

Death During Lunch Hour—Altercation over Cigarettes

HENRY CYRUS and Fred Edmonds were employees of Miller Tire Service. On the afternoon of January

23, 1944, Cyrus, while eating a sandwich on his lunch hour on the premises of the employer—as he was permitted to do—was assaulted by Edmonds, and received injuries resulting in his death.

Prior to the assault Edmonds had persuaded Cyrus to go out and buy two packs of cigarettes, and had given him 31 cents for this purpose While eating his lunch, Cyrus told Edmonds

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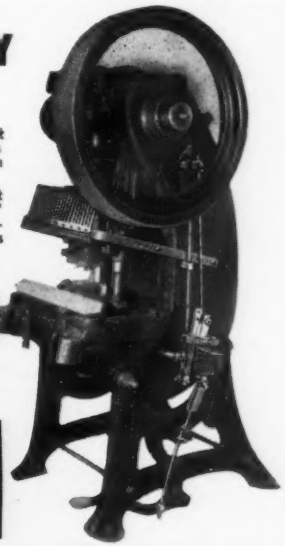

JUNKIN SAFETY GUARD

that he had had to pay 34 cents for the two packs of cigarettes, and he "asked" Edmonds about it. Apparently, he made no specific demand for repayment of his three cents, but this brought on an altercation.

Edmonds became enraged at the suggestion that he owed the three cents, cursed him, and contended that he was being over-charged. The deadly assault with a pair of pliers immediately followed. There had been no previous ill feeling between the two men.

The company opposed the claim on the grounds that the death of Cyrus did not arise out of and in the course of his employment. It is assumed that injury arose in the course of employment, the only question in the case being whether the accident arose out of the employment.

The rule is that an accident to be within the Compensation Act must have originated in some risk of employment. It is impossible to establish an invariable rule to determine what is a risk of employment. However, it has been held that if the injury can be seen to have followed as a natural incident of the work and to have been contemplated by a reasonable person familiar with the whole situation as a result of the exposure occasioned by the nature of the employment, then it arises "out of" the employment.

But it excludes an injury which cannot fairly be traced to the employment as a contributing proximate cause and which comes from a hazard to which the workmen would have been equally exposed apart from the employment. The causative danger must be peculiar to the work and not comon to the neighborhood. It must be incidental to the character of the business and not independent of the relation of master and servant. It need not have been

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Industrial Safety Division • Willow Grove, Penna.

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foreseen or expected, but after the event it must appear to have had its origin in a risk connected with the employment, and to have flowed from that source as a rational consequence.

Under the established principles, the undisputed facts in the present case make it clear that the dispute between Cyrus and Edmonds about the two packs of cigarettes and three cents did not arise out of the employment. The only suggestion that the employment had any bearing upon the injury was that the employment brought the two men together. The felonious assault, however, arose not out of employment, but because the deceased in effect demanded a reimbursement of three cents in a purely personal transaction.

The fact that the killing took place on the employer's premises was a mere incident. There was no causal relation between the work and the assault. Recovery denied. Cyrus vs. Miller Ti Supreme Court of South Carolina July 16, 1946
38 S. E. 2nd series
page 761

●

Inhaling of Chlorine Gas—Without Proof of Causal Connection to Condition

YAW claims total disability resulting from an accident in the latter part of November, 1943, while working for the company. He claims that on the second day after he began to work for this company, he inhaled an excessive amount of chlorine gas. This, he says, resulted in injury to his respiratory organs and caused heart trouble, which has totally disabled him from doing the kind of work he was doing when injured, that of a steam fitter.

The claim was denied in trial court on three principal grounds viz.: that there was no accident, that plaintiff's condition has no causal connection

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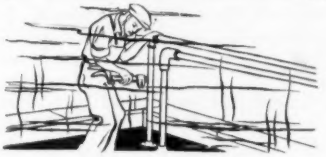
with the alleged injury, and that the defendants deny that he is totally and permanently disabled. The trial judge rendered a judgment in favor of the defendants and rejected claimant's demand, which ruling is being appealed.

On the question as to whether or not there was an accident within the contemplation of the Workmen's Compensation Law, the record shows that the place where claimant was working was in and around what is called



the acid recovery room or cells of the company plant, and discloses that considerable gas fumes were present in and about these rooms.

Many of the workmen would have coughing spells, smarting in their eyes, nausea and other symptoms caused from the inhalation of the poisonous gas. The record shows further that during the day several of these employees with coughing spells would report to the first aid station complaining of these symptoms and would be given first aid treatment, after which they usually went back to work. There is no question but that an unusual amount of this chlorine gas would produce clear symptoms of coughing, throat irritation, nausea and sometimes would prevent an employee from returning to his work for several days. The record

The commonsense way to
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In Shower Rooms

SAFE, NON-POISONOUS SKIN TOUGHENING TO COUNTERACT THE SOFTENING EFFECTS OF WEARING SHOES

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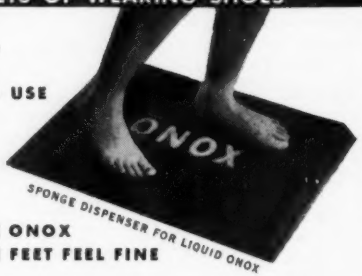

BATHERS LIKE ONOX
IT MAKES THE FEET FEEL FINE

Recent research has upset former theories regarding the control of Athlete's Foot. ONOX is revolutionary. A safe, non-poisonous skin toughener does the work. You may test it under any conditions you choose to impose and without obligation. For example:

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Important: Did you note the "Radical reversal of medical teaching" in TIME Magazine? A report based on 10 years observation by 91 U. S. Skin Specialists calls Foot Baths "Futile" "Illogical" "Potentially harmful." Onox on the other hand is a safe non-poisonous skin toughener. IT STEPS UP RESISTANCE . . . INSTEAD OF BREAKING IT DOWN! Try the Onox way. You'll be surprised!
(Copy of TIME article sent on request.)

shows that the claimant did inhale a quantity of this poisonous gas on the last day that he worked for this employer, but there is considerable dispute as to what reports he made to the first aid station and the company doctor, as well as the nature and extent of the symptoms resulting from his inhalation of the gas. Yaw contends that during the second day of his employment he was directed to work on a tower where the gas fumes were bad; that he was working on a pipe and gas was leaking from an overflow near him; that he was about 10 feet above the overflow of gas and it drifted up to him.

He says the gas hurt his throat, and caused a burning in his chest and affected his breathing; that he became nauseated, and could not eat his lunch; that the gas made tears come in his eyes. He states that he stayed on the job the rest of the day and that night he spit up considerable blood. He is corroborated in his statement of spitting up blood by his wife and daughter. Other than the fact that the employees working around this area saw that Yaw was affected by the gas, he is not corroborated in his statement that there was an unusual amount of gas escaping from leaking pipes below the place where he was working.

The doctors diagnosed his trouble as being chronic bronchitis and a skip in his heart beat, which would disable him for hard work. If the claimant's account of the happening is true, the event was sudden if not wholly unexpected and produced objective symptoms of an injury. It was not a result produced over a long period of time by exposure to the gas fumes, therefore condition not classed as an occupational disease. However,

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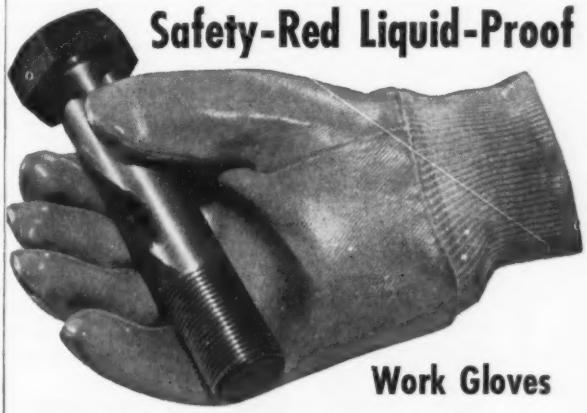

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assuming that the claimant did sustain an accident as he claims, the proof does not show that his disability was caused from the alleged accident. Every doctor who testified in the case was of the opinion either that his present condition was not necessarily traceable to the gas poison or that it was positively not so traceable.

The strong point in Yaw's favor to the effect that the inhalation of gas might have caused the present condition is the fact that he had always worked regularly prior to that time and was examined before entering the company's employment in November 1943, and nothing wrong was found by the examining physician.

Some medical evidence shows that the inhalation of chlorine gas would irritate the respiratory passages and if the amount so inhaled is excessive it might seriously injure the membrane in these passages. However, these doctors claim that the effect of such irritation should pass off in a short time leaving no permanent effects.

The burden rests upon Yaw to show that his present disability resulted from an accident sustained from the course of his employment. Having failed to show causal connection between the alleged accident and whatever disability he may have, the claim of necessity must be disallowed.

Yaw vs. Mathieson Alkali Works
Court of Appeals Louisiana June 28, 1946
26 S. Rep. 2nd series page 718

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- Deeper impression with less exertion
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HELP PREVENT AN ACCIDENT TODAY!

M.E. CUNNINGHAM CO.
SAFETY STEEL STAMPS

91 Carson St., Pittsburgh 19, Pa.

Absenteeism

(Continued from page 23)

slight cost to the victims, either in actual financial outlay or in loss of time or impaired efficiency, while others involve heavy loss in both categories.

The secret of avoiding colds is

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Eliminate those serious accidents caused by hair becoming entwined in moving machinery.

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simple: Avoid direct or indirect association with the person who has a cold. The small droplets which

Electric dishwashers in plant cafeterias insure hygienically clean glasses, cups and silverware as a check on the possible spread of cold germs.

are sprayed into the air whenever the fomer coughs or sneezes without placing a handkerchief, piece of gauze or other protective covering over the mouth and nose—those small droplets are said to travel as much as twelve feet at a speed up to 150 feet a second. Anyone within that 12-foot radius therefore is likely to become infected.

Some of those droplets fall harmlessly to the ground, floor or pavement. Others evaporate in the air and leave the viruses in a state of suspension. Whenever someone breathes that air soon after it has been sprayed in that manner, he is likely to receive them into his own body. Even using table ware or other articles which have received these viruses is an invitation to the viruses to claim another victim.

General Health Important

Fortunately, all persons who are exposed to colds do not contract them. Good general health means good, sturdy resistance to disease germs, and resistance is the body's first line of defense. It is of the greatest importance, therefore, to keep the body in first-class condition during the period when the danger of contracting colds is greatest. It is unfortunate indeed that that period is also the one in which there is less sunshine than at any other time of the year and when the body is so heavily clothed that it gets relatively little benefit from that which is available. Artificial sun decks in plant recreation rooms are a step in the right direction.

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Model No. 17-S

It's only 5¾ inches long—convenient!—but it's SAFE! Yes, sir, this 3-cell Justrite Service Flashlight is approved for safety by Underwriters' Laboratories, Inc., and U. S. Bureau of Mines. And it's sturdy—plastic case guaranteed unbreakable. Gives 1800 candlepower spot beam, with plain lens. For spread beam, use it with the Justrite Honeycomb Lens (shown). *AND*—it's available *now*. See your supply company today about this "Justrite" Flashlight!

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The Scott Air-Pak has so many advantages over other types of breathing equipment that safety engineers can now go to management with a

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as well as improved breathing protection for the workman.

Here is Proof! Here are Facts!

The Hamilton Manufacturing Company of Two Rivers, Wisconsin, tells a true story of the Scott Air-Pak in action—

"Shut-downs in emergencies caused thirty key men to remain idle for three hours to allow cooling off of the interior of the ovens, and additional time to remove material jammed on the conveyors, for correction of the cause of the jam.

Two men tried the Scott Air-Paks and asbestos suits. They entered the long drying oven, with inside temperature at 260° F., remained in oven five minutes. Came out to cool off suit for about two minutes. Both men re-entered the oven. Remained for another seven minutes. Air from cylinder was still deemed cool and comfortable. The equipment was deemed satisfactory and economical for use in such emergencies.

The department head states that within ten to fifteen minutes, any jam can be corrected with the use of the Scott Air-Paks and asbestos suits, at a great saving to the company; and pay for the devices during one such shut-down of production."

A Scott sales engineer will be glad to cooperate with you, investigating in your plant, cost reduction and production increases which the Scott Air-Pak, in one of the many types available, may make possible.

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Soldier Sacked

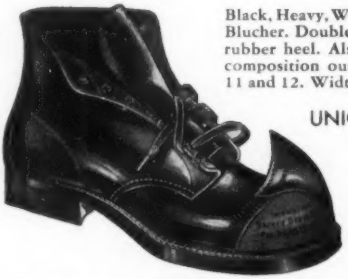
During army maneuvers in Tennessee, the soldiers were sleeping through a thunderstorm in their sleeping bags. A bolt of lightning, looking around for some mischief to do, connected with the zipper fastener on one of the bags and neatly welded it all around. The soldier who was sealed up inside was unhurt, but had to have help in getting out.

Except for the names, this is a true story from the files of the National Safety Council.

Unusual, spectacular accidents make the best stories, but the commonplace, everyday accidents make the most cripples. Foot accidents are not unusual; they seldom make headlines. But about 60,000 of them happen in an average year. They can happen to any worker—any time. For the best protection against foot injuries, be careful and wear SAFETY FIRST Shoes.

HEAVY OUTSIDE WORK

DEC -2 1947



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